

REMARKS

Claims 1-19 and 19-30 are pending in this application; claims 19-30 have been withdrawn from consideration. Applicants have herewith submitted proposed amendments to claim 1 to promote clarity and precision in the claim language.

In the Office Action, the Examiner acknowledges receipt of the drawing filed by Applicants on March 1, 2007, and has found this acceptable, and thus has withdrawn the previous objection under 37 C.F.R. §§ 1.821-1.824. The Examiner has accepted correction of the inventorship of this application in view of papers filed June 3, 2005 in compliance with 37 C.F.R. § 1.48(a). Furthermore, the Examiner has withdrawn the previous rejection of claims 1-9 under 35 U.S.C. § 112, second paragraph, in view of Applicants' previous amendment filed March 1, 2007. Applicants acknowledge and appreciate the Examiner's careful consideration of these matters.

Also in the Office Action, the Examiner has newly rejected claims 1-9 under 35 U.S.C. § 103(a) over Bridon et al. (2000) in view of Nitecki et al. (1990). The Examiner notes that Bridon provides polypeptides derived from HIV-1 gp41 HR1 and HR2, and that while Bridon does not disclose peptide-polymer conjugates, as per the present disclosure, Nitecki would serve to provide disclosure of polypeptide-polymer conjugates featuring reduced immunogenicity, increased solubility and increased stability, and the Examiner thus believes that it would be prima facie obvious to one of skill in the art at the time of the present invention to conjugate HR1, HR2 or both HR1 and HR2 antiviral polypeptides to PEG.

In response, Applicants respectfully submit that the present disclosure is inventive and non-obvious in offering new peptide-polymer conjugates, wherein two or more synthetic peptides are covalently attached to a polymer (e.g., PEG), that offer unexpected enhanced antiviral activity against demonstrated antiviral-resistant strains of HIV relative to either single peptide-PEG monomer conjugates or unconjugated synthetic peptide alone (see, e.g., Table 2 and Table 3 of the specification). Bridon does not teach or provide examples wherein conjugated peptides might demonstrate enhanced antiviral properties; rather, Bridon explicitly notes and appreciates an expected trade-off between increase in stability of a conjugated peptide (reflected by, e.g., in vivo half-life) and decrease in efficacy (e.g., antiviral activity) of that conjugated peptide, e.g., Bridon at page 38, lines 15-22, and Bridon describes the disclosed peptides as noteworthy when the antiviral properties have not diminished too considerably due to conjugation. While Nitecki also emphasizes conjugation

Appl. No. 10/671,282
Amendment dated June 25, 2008
Reply to Office communication dated June 5, 2007

as increasing half-life of the administered peptide-PEG conjugate, Nitecki does not teach or suggest conditions wherein antiviral activity might be a dimension subject to improvement through conjugation. Thus, one of skill in the art at the time of filing, even in view of Bridon and Nitecki, would not have received teaching, suggestion or motivation to believe that the peptide-polymer conjugates of the present invention would demonstrate enhanced antiviral efficacy, and, in fact, such a scientist would likely believe that such conjugates would demonstrate further diminished antiviral properties and therefore less likely to endeavor to pursue such efforts. Nor would exploration of preparing such conjugates qualify as "obvious to try"—even as meeting such a standard in itself would not be sufficient as to bar patentability—as again, the scientist would expect dramatic reduction in the most central and important property, i.e., the antiviral activity, of such peptides, without an expectancy of correspondingly offsetting greater gains in half-life of the peptide or other less critical properties of the peptides.

Applicants thus respectfully ask the Examiner to reconsider and withdraw the rejection of claims 1-9 under 35 U.S.C. § 103(a), and Applicants further respectfully ask that the Examiner grant an allowance for all pending claims as currently recited.

CONCLUSION

Applicants respectfully request entry of the amendment and remarks into the file of the application. Should any issue remain, the Examiner is respectfully encouraged to telephone the undersigned to discuss the same. In the event any additional fee is required, beyond that which has been provided for in submissions herewith, please charge the required fee to Jones Day Deposit Account No. 50-3013.

Respectfully submitted,

Date: June 25, 2008

Laura A. Coruzzi

Laura A. Coruzzi

[Signature] Reg. No. 51,036
30,742

(Reg. No.)

Jones Day
222 East 41st Street
New York, NY 10017
(212) 326-3939